

Applicants: Taka Aki Sato and Junn Yanagisawa
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Amendments to the claims:

Certain claims have been amended and others canceled below without disclaimer or prejudice to applicants' right to pursue the subject matter of these claims in a continuation application.

The following listing of claims will replace all prior versions, and listings, of claims in the application.

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Listing of claims:

1-121. (canceled)

122. (currently amended) The method of claim ~~121~~ 142, wherein the inhibition of specific binding between the signal-transducing protein and the cytoplasmic protein affects the transcription activity of a reporter gene.

123. (previously presented) The method of claim 122, where in step (b) the displaced signal-transducing protein or the complex is detected by comparing the transcription activity of a reporter gene before and after the contacting with the compound in step (a), where a change of the activity indicates that the specific binding between the signal-transducing protein and the cytoplasmic protein is inhibited and the signal-transducing protein is displaced.

124. (previously presented) The method of claim 122, where in step (b) the displaced cytoplasmic protein or the complex is detected by comparing the transcription activity of a reporter gene before and after the contacting with the compound in step (a), where a change of the activity indicates that the specific binding between the signal-transducing protein and the cytoplasmic protein is inhibited and the cytoplasmic protein is displaced.

125. (currently amended) The method of claim ~~121~~ 142, wherein the cytoplasmic protein is bound to a solid support.

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126. (currently amended) The method of claim ~~121~~ 142, wherein the ~~compound~~ agent is bound to a solid support.
127. (currently amended) The method of claim ~~121~~ 142, wherein the compound comprises an antibody, an inorganic compound, an organic compound, a peptide, a peptidomimetic compound, a polypeptide or a protein.
128. (currently amended) The method of claim ~~121~~ 142, wherein the contacting of step (a) is in vitro.
129. (currently amended) The method of claim ~~121~~ 142, wherein the contacting of step (a) is in vivo.
130. (previously presented) The method of claim 129, wherein the contacting of step (a) is in a yeast cell.
131. (previously presented) The method of claim 129, wherein the contacting or step (a) is in a mammalian cell.
132. (currently amended) The method of claim ~~121~~ 142, wherein the signal-transducing protein is a cell surface receptor.
- 133-139. (canceled)
140. (currently amended) The method of claim ~~121~~ 142, wherein the cytoplasmic protein contains the amino acid sequence SLGI (SEQ ID NO:3).
141. (canceled)

142. (new) A method of identifying an agent that inhibits the interaction between (i) a signal-transducing protein comprising a peptide selected from the group consisting of amino acid sequences as set forth in SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15 and SEQ ID NO:16 and (ii) a cytoplasmic protein comprising the amino acid sequence as set forth in SEQ ID NO:1, comprising:

(a) contacting the cytoplasmic protein bound to the signal-transducing protein with the agent, wherein the contacting occurs under conditions permitting binding between the signal-transducing protein bound to the cytoplasmic protein and a compound previously shown to be able to displace the signal-transducing protein bound to the cytoplasmic protein and form a complex with the cytoplasmic protein to which the signal-transducing protein is no longer bound; and

(b) detecting (i) displaced signal-transducing protein or (ii) the complex from step (a), wherein the detection of displaced signal-transducing protein or the complex indicates that the agent inhibits the interaction between the signal-transducing protein and the cytoplasmic protein.

143. (new) A method of identifying an agent that inhibits the interaction between (i) a signal-transducing protein comprising a peptide selected from the group consisting of amino acid sequences as set forth in SEQ ID NO:9, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14, SEQ ID NO:15 and SEQ ID NO:16 and (ii) a cytoplasmic protein

comprising the amino acid sequence as set forth in SEQ ID NO:1, comprising:

(a) contacting the cytoplasmic protein bound to the signal-transducing protein with a plurality of compounds, wherein the contacting occurs under conditions permitting binding between the signal-transducing protein bound to the cytoplasmic protein and a compound previously shown to be able to displace the cytoplasmic protein bound to the signal-transducing protein and form a complex with the signal-transducing protein to which the cytoplasmic protein is no longer bound; and

(b) detecting (i) displaced cytoplasmic protein or (ii) the complex from step (a), wherein the detection of displaced cytoplasmic protein or the complex indicates that the agent inhibits the interaction between the signal-transducing protein and the cytoplasmic protein.

144.(new) The method of claim 143, wherein the inhibition of specific binding between the signal-transducing protein and the cytoplasmic protein affects the transcription activity of a reporter gene.

145.(new) The method of claim 144, where in step (b) the displaced signal-transducing protein or the complex is detected by comparing the transcription activity of a reporter gene before and after the contacting with the compound in step (a), where a change of the activity indicates that the specific binding between the signal-transducing protein and the cytoplasmic protein is inhibited and the signal-transducing protein is displaced.

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- 146.(new) The method of claim 143, wherein the cytoplasmic protein is bound to a solid support.
- 147.(new) The method of claim 143, wherein the agent is bound to a solid support.
148. (new) The method of claim 143, wherein the compound comprises an antibody, an inorganic compound, an organic compound, a peptide, a peptidomimetic compound, a polypeptide or a protein.
149. (new) The method of claim 143, wherein the contacting of step (a) is in vitro.
150. (new) The method of claim 143, wherein the contacting of step (a) is in vivo.
151. (new) The method of claim 150, wherein the contacting of step (a) is in a yeast cell.
152. (new) The method of claim 150, wherein the contacting or step (a) is in a mammalian cell.
153. (new) The method of claim 143, wherein the signal-transducing protein is a cell surface receptor.
154. (new) The method of claim 143, wherein the cytoplasmic protein contains the amino acid sequence SLGI (SEQ ID NO:3).